



INDIANA DEPARTMENT OF ENVIRONMENTAL MANAGEMENT

We make Indiana a cleaner, healthier place to live.

Joseph E. Kernan
Governor

Lori F. Kaplan
Commissioner

December 12, 2003

100 North Senate Avenue
P.O. Box 6015
Indianapolis, Indiana 46206-6015
(317) 232-8603
(800) 451-6027
www.in.gov/idem

TO: Interested Parties / Applicant

RE: Forest River, Inc. / 039-18026-00576

FROM: Paul Dubenetzky
Chief, Permits Branch
Office of Air Quality

Notice of Decision – Approval

Please be advised that on behalf of the Commissioner of the Department of Environmental Management, I have issued a decision regarding the enclosed matter. Pursuant to 326 IAC 2, this approval was effective immediately upon submittal of the application.

If you wish to challenge this decision, IC 4-21.5-3-7 requires that you file a petition for administrative review. This petition may include a request for stay of effectiveness and must be submitted to the Office of Environmental Adjudication, 100 North Senate Avenue, Government Center North, Room 1049, Indianapolis, IN 46204, **within eighteen (18) calendar days from the mailing of this notice**. The filing of a petition for administrative review is complete on the earliest of the following dates that apply to the filing:

- (1) the date the document is delivered to the Office of Environmental Adjudication (OEA);
- (2) the date of the postmark on the envelope containing the document, if the document is mailed to OEA by U.S. mail; or
- (3) The date on which the document is deposited with a private carrier, as shown by receipt issued by the carrier, if the document is sent to the OEA by private carrier.

The petition must include facts demonstrating that you are either the applicant, a person aggrieved or adversely affected by the decision or otherwise entitled to review by law. Please identify the permit, decision, or other order for which you seek review by permit number, name of the applicant, location, date of this notice and all of the following:

- (1) the name and address of the person making the request;
- (2) the interest of the person making the request;
- (3) identification of any persons represented by the person making the request;
- (4) the reasons, with particularity, for the request;
- (5) the issues, with particularity, proposed for considerations at any hearing; and
- (6) identification of the terms and conditions which, in the judgment of the person making the request, would be appropriate in the case in question to satisfy the requirements of the law governing documents of the type issued by the Commissioner.

If you have technical questions regarding the enclosed documents, please contact the Office of Air Quality, Permits Branch at (317) 233-0178. Callers from within Indiana may call toll-free at 1-800-451-6027, ext. 3-0178.

Enclosures
FNPER-AM.dot 9/16/03

December 12, 2003

Mr. William Conway Jr.
Forest River, Inc.
P. O. Box 124
Goshen, Indiana 46527

Dear Mr. Conway:

Re: Exempt Construction and Operation Status,
039-18026-00576

The application from Forest River, Inc. - Odyssey Boat Division, located at 51773 C. R. 39, Middlebury, Indiana 46540 received on September 25, 2003 with additional information received on November 13, 2003 has been reviewed. Based on the data submitted and the provisions in 326 IAC 2-1.1-3, it has been determined that the following boat assembly plant, is classified as exempt from air pollution permit requirements:

- (a) One (1) Pontoon Boat Assembly Line, constructed in 2003, coating wooden sheet goods, aluminum and plastic/fiberglass parts utilizing HVLP airless spray, wipe cleaning, roll coating and extruding and coating a maximum of 15 boats per day;
- (b) One (1) Fishing Boat Assembly Line, constructed in 2003, coating wooden sheet goods, aluminum and plastic/fiberglass parts utilizing HVLP airless spray, wipe cleaning, roll coating and extruding and coating a maximum of 5 boats per day;
- (c) One (1) woodworking area, with a maximum capacity of 75 lbs/hr of plywood, controlled by a dust collector and a cyclone;
- (d) One (1) welding area, using four (4) metal inert gas (MIG) stations, each rated at 1.7 pounds per hour; and
- (e) Three (3) natural gas space heaters, each rated at 1.8 million (MM) Btu per hour.

The following conditions shall be applicable:

- (1) Pursuant to 326 IAC 5-1-2 (Opacity Limitations) except as provided in 326 IAC 5-1-3 (Temporary Exemptions), opacity shall meet the following:
 - (a) Opacity shall not exceed an average of forty percent (40%) in any one (1) six (6) minute averaging period as determined in 326 IAC 5-1-4.
 - (b) Opacity shall not exceed sixty percent (60%) for more than a cumulative total of 15 minutes (60 readings) in a 6-hour period as measured according to 40 CFR 60, Appendix A, Method 9 or fifteen (15) one (1) minute nonoverlapping integrated averages for a continuous opacity monitor in a six (6) hour period.
- (2) Pursuant to 326 IAC 6-3-2 (Particulate Emission Limitations), the particulate emissions from the woodworking process shall not exceed 0.551 pound per hour. The use of a dust collector and a cyclone with this process ensures compliance with this limit.

- (3) Any change or modification which may increase actual VOC emissions to fifteen (15) pounds per day or greater from the Fishing Boat Line when painting metal or aluminum shall be subject to 326 IAC 8-2-9 (Miscellaneous Metal Coating) and shall require prior approval from IDEM, OAQ before such change may occur.
- (4) Any change or modification which may increase actual VOC emissions to fifteen (15) pounds per day or greater from the Pontoon Line when painting metal or aluminum shall be subject to 326 IAC 8-2-9 (Miscellaneous Metal Coating) and shall require prior approval from IDEM, OAQ before such change may occur.
- (5) Any change or modification which may increase the weld wire usage to greater than 625 pounds per day shall make the welding operation subject to 326 IAC 6-3-2 and shall require prior approval from IDEM, OAQ before such change may occur.
- (6) Any change or modification which may increase potential VOC emissions to twenty-five (25) tons per year or greater from the Fishing Boat Line when painting plastic or fiberglass shall be subject to 326 IAC 8-1-6 (General Reduction Requirements) and shall require prior approval from IDEM, OAQ before such change may occur.
- (7) Any change or modification which may increase potential VOC emissions to twenty-five (25) tons per year or greater from the Pontoon Line when painting plastic or fiberglass shall be subject to 326 IAC 8-1-6 (General Reduction Requirements) and shall require prior approval from IDEM, OAQ before such change may occur.
- (8) Any change or modification which may increase actual VOC emissions to fifteen (15) pounds per day or greater when painting the storage box lid's side in the Pontoon Boat Line shall be subject to 326 IAC 8-2-12 (Wood Furniture and Cabinet Coating) and shall require prior approval from IDEM, OAQ before such change may occur.

This exemption is being re-issued to this source.

An application or notification shall be submitted in accordance with 326 IAC 2 to the Office of Air Quality (OAQ) if the source proposes to construct new emission units, modify existing emission units, or otherwise modify the source.

Sincerely,

Original signed by Paul Dubenetzky
Paul Dubenetzky, Chief
Permits Branch
Office of Air Quality

APD

cc: File - Elkhart County
Elkhart County Health Department
Air Compliance -Paul Karkiewicz
Northern Regional Office
Permit Tracking - Janet Mobley
Technical Support and Modeling - Michele Boner
Compliance Data Section - Karen Nowak

Indiana Department of Environmental Management Office of Air Quality

Technical Support Document (TSD) for an Exemption

Source Background and Description

Source Name: Forest River, Inc. - Odyssey Boat Division
Source Location: 51773 C.R. 39, Middlebury, Indiana 46540
County: Elkhart
SIC Code: 3732
Exemption No.: 039-18026-00576
Permit Reviewer: Aida De Guzman

The Office of Air Quality (OAQ) has reviewed an application from Forest River, Inc. relating to the re-permitting of the aluminum boat assembly plant, which includes the following emission units:

- (a) One (1) Pontoon Boat Assembly Line, constructed in 2003, coating wooden sheet goods, aluminum and plastic/fiberglass parts utilizing HVLP airless spray, wipe cleaning, roll coating and extruding and coating a maximum of 15 boats per day;
- (b) One (1) Fishing Boat Assembly Line, constructed in 2003, coating wooden sheet goods, aluminum and plastic/fiberglass parts utilizing HVLP airless spray, wipe cleaning, roll coating and extruding and coating a maximum of 5 boats per day;
- (c) One (1) woodworking area, with a maximum capacity of 75 lbs/hr of plywood, controlled by a dust collector and a cyclone;
- (d) One (1) welding area, using four (4) metal inert gas (MIG) stations, each rated at 1.7 pounds per hour; and
- (e) Three (3) natural gas space heaters, each rated at 1.8 million (MM) Btu per hour.

Existing Approvals

The above listed emission units were originally permitted in Registration 039-10855-00491, issued on June 8, 1999 at a different location in Elkhart, Indiana 46516. These emission units were relocated at 51773 C.R. 39, Middlebury, Indiana 46540, and were issued Exemption 039-16618-00576 on March 11, 2003 as a new source.

History

The source has submitted an application on September 25, 2003 for a re-permitting, based on the recommendation of IDEM, OAQ inspector. During an on site inspection on August 13, 2003 the source was found to be using different VOC and HAP raw materials not included in the

application submitted for the current Exemption. A PTE calculation was done on site and indicated a VOC PTE of greater than 25 tons per year. However, based on the information submitted by the source in the re-permitting application, the source is still exempted.

Enforcement Issue

There are no enforcement actions pending.

Recommendation

The staff recommends to the Commissioner that the aluminum boat manufacturing plant be approved. This recommendation is based on the following facts and conditions:

Unless otherwise stated, information used in this review was derived from the application and additional information submitted by the applicant.

An application for the purposes of this review was received on October 25, 2003. Additional information was received on November 13, 2003.

Emission Calculations

- (a) Fishing Boat Line: See Page 1 and 2 of 6 TSD Appendix A for detailed emission calculations.
- (b) Pontoon Boat Line: See Page 1 and 2 of 6 TSD Appendix A for detailed emission calculations.
- (c) Woodworking Operation: See Page 4 of 6 TSD Appendix A for detailed emission calculations.
- (d) Welding Operation: See Page 3 of 6 TSD Appendix A for detailed emission calculations.
- (e) Space Heaters: See Page 5 and 6 of 6 TSD Appendix A for detailed emission calculations.

Potential To Emit of Source Before Controls

Pursuant to 326 IAC 2-1.1-1(16), Potential to Emit is defined as “the maximum capacity of a stationary source or emissions unit to emit any air pollutant under its physical and operational design. Any physical or operational limitation on the capacity of a source to emit an air pollutant, including air pollution control equipment and restrictions on hours of operation or type or amount of material combusted, stored, or processed shall be treated as part of its design if the limitation is enforceable by the U. S. EPA, the department, or the appropriate local air pollution control agency.”

Pollutant	Potential To Emit (tons/year)
PM	3.8
PM-10	0.98
SO ₂	0.01
VOC	8.56
CO	1.99
NO _x	2.37

HAP's	Unrestricted Potential Emissions (tons/yr)
Chromium	3.311E-05
Manganese	1.03E-01
Nickel	4.967E-05
Benzene	4.967E-05
MEK	2.0E-02
Toluene	2.05E-02
Xylene	1.0E-02
Glycol Ethers	1.0E-03
Dichlorobenzene	2.83E-05
Hexane	4.257E-02
Formaldehyde	1.77E-03
Chromium	3.311E-05
Lead	1.18E-05
Nickel	4.967E-05
TOTAL	19.86E-02

- (a) The potential to emit of all the regulated pollutants for this modification at the source is lower than the registration applicability thresholds stated in 326 IAC 2-7-10.5(d)(4). Therefore, pursuant to 326 IAC 2-1.1-3(d)(3), this is an exempt unit.

County Attainment Status

The source is located in Elkhart County.

Pollutant	Status
PM-10	attainment
SO ₂	attainment
NO ₂	attainment
Ozone	maintenance
CO	attainment

- (a) Volatile organic compounds (VOC) are precursors for the formation of ozone. Therefore, VOC emissions are considered when evaluating the rule applicability relating to the ozone standards. Elkhart County has been designated as attainment or unclassifiable for ozone. Therefore, VOC emissions were reviewed pursuant to the requirements for Prevention of Significant Deterioration (PSD), 326 IAC 2-2.

Part 70 Permit Determination

326 IAC 2-7 (Part 70 Permit Program)

This new source is not subject to the Part 70 Permit requirements because the potential to emit (PTE) of:

- (a) each criteria pollutant is less than 100 tons per year,
- (b) a single hazardous air pollutant (HAP) is less than 10 tons per year, and
- (c) any combination of HAPs is less than 25 tons/year.

This is the first air approval issued to this source.

Federal Rule Applicability

- (a) There are no New Source Performance Standards (NSPS)(326 IAC 12 and 40 CFR Part 60)

applicable to this source.

- (b) The National Emission Standards for Hazardous Air Pollutants (NESHAPs) for Wood Furniture Manufacturing Operations (40 CFR 63, Subpart JJ) are not applicable because this is not a major source as defined in 40 CFR 63, Subpart A and the source does not engage in the manufacturing of wood furniture or wood furniture components.
- (c) The National Emission Standards for Hazardous Air Pollutants (NESHAPs) for Boat Manufacturing Operations (40 CFR 63, Subpart VVVV) applies to boat manufacturing facilities that builds fiberglass boats or aluminum recreational boats and are a major source of HAP. This source assembles boats from premanufactured hulls and decks but is not a major source of HAP, therefore, Subpart VVVV does not apply.

State Rule Applicability - Entire Source

- (a) 326 IAC 2-6 (Emission Reporting)
This source is located in Elkhart County which is one of the specifically regulated counties, but the potential to emit VOC and NOx is less than ten (10) tons per year. Therefore, 326 IAC 2-6 does not apply.
- (b) 326 IAC 5-1 (Opacity Limitations)
Pursuant to 326 IAC 5-1-2 (Opacity Limitations), except as provided in 326 IAC 5-1-3 (Temporary Alternative Opacity Limitations), opacity shall meet the following, unless otherwise stated in this permit:
 - (1) Opacity shall not exceed an average of forty percent (40%) in any one (1) six (6) minute averaging period as determined in 326 IAC 5-1-4.
 - (2) Opacity shall not exceed sixty percent (60%) for more than a cumulative total of fifteen (15) minutes (sixty (60) readings as measured according to 40 CFR 60, Appendix A, Method 9 or fifteen (15) one (1) minute nonoverlapping integrated averages for a continuous opacity monitor) in a six (6) hour period.

State Rule Applicability - Individual Facilities

- (a) 326 IAC 2-4.1-1 (Major Sources of Hazardous Air Pollutants (HAP))
The source is not subject to 326 IAC 2-4.1-1, as it does not emit single HAP at a rate of 10 tons per year nor emits a combination of HAPs at a rate of 25 tons per year.
- (b) 326 IAC 6-3-2 (Particulate Emission Limitations for Manufacturing Processes)
 - (1) The woodworking operation handles less than 100 pounds of material per hour. Pursuant to 326 IAC 6-3-2(e)(2), allowable particulate emissions from this process shall not exceed 0.551 pounds per hour. The use of a dust collector and a cyclone with this process ensures compliance with this limit.
 - (2) Pursuant to 326 IAC 6-3-1(b)(9), the welding operation is exempt from 326 IAC 6-3-2 (Particulate Emission Limitations for Manufacturing Processes) because less than 625 pounds of wire is consumed per day.
 - (3) The surface coating operations done at the Fishing Boat Line and Pontoon Line when using roll coating and brush (wipe, trowel) methods are exempted from 326 IAC 6-3-2.
 - (4) The surface coating operations done at the Fishing Line and Pontoon Line when using aerosol coating products to repair minor surface damage and imperfections

are exempted from 326 IAC 6-3-2.

- (c) 326 IAC 8-1-6 (New Facilities, General Reduction Requirements)
 - (1) The Fishing Boat Line when painting plastic or fiberglass is not subject to 326 IAC 8-1-6, as it does not have a potential VOC emissions of 25 tons per year.
 - (2) The Pontoon Line when painting plastic or fiberglass is not subject to 326 IAC 8-1-6, as it does not have a potential VOC emissions of 25 tons per year.
- (d) 326 IAC 8-2-9 (Miscellaneous Metal Coating Operation)
 - (1) The Fishing Boat Line when painting metal or aluminum is not subject to 326 IAC 8-2-9, as it does not have an actual VOC emissions before control of 15 pounds per day.
 - (2) The Pontoon Line when painting metal or aluminum is not subject to 326 IAC 8-2-9, as it does not have an actual VOC emissions before control of 15 pounds per day.
- (e) 326 IAC 8-2-12 (Wood Furniture and Cabinet Coating)
The surface coating of the storage box lid's side in the Pontoon Boat Line is not subject to 326 IAC 8-2-12 (Wood Furniture and Cabinet Coating), as it does not have an actual VOC emissions before control of 15 pounds per day.

Compliance Monitoring Requirements

Compliance Monitoring is not required since the allowable emissions for the woodworking operation is less than ten (10) pounds per hour.

Conclusion

The operation of this aluminum boat assembly plant shall be subject to the conditions of the attached **Exemption No. 039-18026-00576**.

Appendix A: Emissions Calculations

VOC and Particulate
From Surface Coating Operations

Company Name: Forest River, Inc. - Odyssey Boat Division
Address City IN Zip: 51773 C.R. 39, Middlebury, IN 46540
Exemption No.: 039-18026
Pit ID: 039-00576
Reviewer: Aida De Guzman
Date Application Received: Sept. 25, 2003

Material	Density (Lb/Gal)	Weight % Volatile (H2O & Organics)	Weight % Water	Weight % Organics	Volume % Water	Volume % Non-Volatiles (solids)	Gal of Mat. (gal/unit)	Maximum (unit/hour)	Pounds VOC per gallon of coating less water	Pounds VOC per gallon of coating	Potential VOC pounds per hour	Potential VOC pounds per day	Potential VOC tons per year	Particulate Potential (ton/yr)	lb VOC/gal solids	Transfer Efficiency	Substrate
Fishing Boat Line																	
Denatured Alcohol	6.6	100.00%	0.0%	100.0%	0.0%	0.00%	0.07500	0.208	6.58	6.58	0.10	2.47	0.45	0.0000	6.00	100%	aluminum
NuFlex 302 Silicone Sealant	8.6	3.10%	0.0%	3.1%	0.0%	96.90%	0.00080	0.208	0.27	0.27	0.00	0.001	0.000	0.0000	0.01	100%	Plastic
NuFlex White Acrylic Sealant	13.3	3.75%	0.0%	3.8%	0.0%	96.25%	0.04600	0.208	0.50	0.50	0.00	0.11	0.02	0.0000	0.52	100%	Plastic
WD40	6.7	63.00%	0.0%	63.0%	0.0%	30.00%	0.04800	0.208	4.20	4.20	0.04	1.01	0.18	0.0648	14.01	40%	aluminum
Bostik Super Tack Adhesive	6.4	71.30%	30.0%	41.3%	30.0%	28.70%	0.51890	0.208	3.78	2.64	0.29	6.85	1.25	0.0000	9.21	100%	aluminum
Cyclo C-111 Cleaner	6.3	100.00%	26.0%	74.0%	26.0%	0.00%	0.00005	0.208	6.33	4.68	0.00	0.001	0.000	0.0000	ERR	40%	plastic
Beaver Terp-a-Kleen	7.2	100.00%	0.0%	100.0%	0.0%	0.00%	0.03130	0.208	7.16	7.16	0.05	1.12	0.20	0.0000	ERR	100%	metal, plastic
Evinrude Tracker MET Black Paint	6.9	86.20%	34.5%	51.7%	41.7%	13.80%	0.00030	0.208	6.13	3.57	0.00	0.01	0.00	0.0000	25.89	100%	plastic
3M Polishing Cmp #7	8.3	86.30%	60.0%	26.3%	60.0%	13.70%	0.00230	0.208	5.48	2.19	0.00	0.03	0.00	0.0014	15.99	40%	plastic
Autofroth 91B0032	9.2	0.00%	0.0%	0.0%	0.0%	71.20%	0.02340	0.208	0.00	0.00	0.00	0.00	0.00	0.0000	0.00	100%	aluminum
Autofroth 9300A Flotation Foam	10.2	0.00%	0.0%	0.0%	0.0%	100.00%	0.06250	0.208	0.00	0.00	0.00	0.00	0.00	0.0000	0.00	100%	aluminum
Chemtech 7227 Premium Adhesive	6.7	81.40%	40.7%	40.7%	40.7%	18.60%	0.06260	0.208	4.62	2.74	0.04	0.86	0.16	0.0429	14.73	40%	fabric
TOTAL for Fishing Line *												11.44					
Pontoon Line																	
Spray N Go Touch Up	6.7	57.60%	25.0%	25.0%	25.0%	13.60%	0.00070	0.625	2.22	1.67	0.00	0.017	0.003	0.0032	2.63	40%	aluminum
Denatured Alcohol	6.6	100.00%	0.0%	100.0%	0.0%	0.00%	0.07500	0.625	6.58	6.58	0.31	7.40	1.35	0.0000	ERR	100%	aluminum
Vetack 7747-00 Adhesive	9.2	45.00%	43.5%	1.5%	43.5%	55.00%	3.00000	0.625	0.24	0.14	0.26	6.18	1.13	0.0000	0.25	100%	wood
NuFlex 302 Silicone	8.6	3.11%	0.0%	3.1%	0.0%	96.89%	0.00080	0.625	0.27	0.27	0.00	0.00	0.00	0.0000	0.28	100%	plastic
NuFlex 180 White Acrylic Sealant	13.3	3.75%	0.0%	3.8%	0.0%	96.25%	0.04600	0.625	0.50	0.50	0.01	0.345	0.063	0.0000	0.52	100%	plastic
WD40	6.7	63.00%	0.0%	63.0%	0.0%	30.00%	0.04800	0.625	4.20	4.20	0.13	3.03	0.55	0.1946	14.01	40%	metal, plastic
Alumicolor Metal Paint	6.2	91.20%	55.0%	36.2%	55.0%	13.80%	0.00030	0.625	4.96	2.23	0.00	0.01	0.00	0.0003	16.19	40%	aluminum
PL-FIX Pro Wood Filler	9.9	55.00%	35.0%	20.0%	35.0%	45.00%	0.00005	0.625	3.05	1.98	0.00	0.00	0.00	0.0000	4.40	100%	wood
Law 8403 Bonding Cement	8.3	50.00%	50.0%	50.0%	50.0%	50.00%	0.16800	0.625	8.33	4.17	0.44	10.50	1.92	0.0000	5.70	100%	wood
Cyclo C 111- Cleaner	6.3	100.00%	26.0%	74.0%	26.0%	0.00%	0.00005	0.625	6.33	4.68	0.00	0.00	0.0006	0.0000	ERR	40%	plastic
Acrylud Satin Black	6.4	79.12%	23.0%	56.1%	23.0%	11.00%	0.00030	0.625	4.69	3.61	0.00	0.02	0.00	0.0000	32.86	100%	plastic
Bondo Fiberglass	9.6	20.00%	0.0%	20.0%	0.0%	81.30%	0.00020	0.625	1.92	1.92	0.00	0.01	0.0010	0.0000	2.36	100%	plastic
Interplastic Marine Resin	10.8	46.50%	0.0%	46.5%	0.0%	53.50%	0.00040	0.625	5.04	5.04	0.00	0.03	0.01	0.0000	6.41	100%	plastic
RW Touch up Paint 5-FSC	7.0	94.00%	29.3%	64.7%	29.3%	1.34%	0.00120	0.625	6.41	4.53	0.00	0.08	0.01	0.0008	339.04	40%	aluminum
G&T Ind. Vinyl Patch	7.4	70.00%	0.0%	70.0%	0.0%	30.00%	0.00005	0.625	5.19	5.19	0.00	0.00	0.00	0.0000	17.29	100%	plastic
3M Polishing Cmpd # 7	8.3	85.00%	58.7%	26.3%	58.7%	15.00%	0.00230	0.625	5.30	2.19	0.00	0.08	0.01	0.0000	14.61	100%	plastic
Beaver Terp A Kleen	7.2	100.00%	0.0%	100.0%	0.0%	0.00%	0.03130	0.625	7.16	7.16	0.14	3.36	0.61	0.0000	19.60	100%	aluminum
Evinrude Tracker MET	6.9	85.70%	34.5%	51.2%	34.5%	13.80%	0.00030	0.625	5.40	3.54	0.00	0.02	0.00	0.0005	25.64	40%	plastic
RW Paint White 5-FSC	7.0	93.89%	29.3%	64.5%	29.3%	1.34%	0.00070	0.625	6.39	4.52	0.00	0.05	0.01	0.0005	338.45	40%	aluminum
Rust Stop Paint	11.0	28.80%	0.0%	28.8%	0.0%	71.20%	0.00070	0.625	3.17	3.17	0.00	0.03	0.01	0.0090	2.50	40%	plastic
ScotchKote	7.3	75.00%	45.0%	30.0%	45.0%	25.00%	0.00090	0.625	4.00	2.20	0.00	0.03	0.01	0.0000	8.80	100%	plastic
Chemtech 7227 Premium Adhesive	6.7	81.40%	40.7%	40.7%	40.7%	18.60%	0.06260	0.625	4.62	2.74	0.11	2.58	0.47	0.0000	14.73	100%	fabric
TOTAL for Pontoon Line *												13.95					

Potential Emissions

Note: The values under columns Weight % Water and Volume % Water for Bostik Super Tack Adhesive, Cyclo C-111 Cleaner, Evinrude Tracker MET, Chemtech 7227 Adhesive, Spray N Go Touch up, PL-FIX Pro wood filler, Cyclo Cleaner, Acrylud Satin Black, Scotchcoat Electrical Coating, and Chemtech Adhesive is Acetone, which is an exempted solvent.

The Alumicolor Metal Paint has 44% acetone and 11% water

Materials for both lines have the potential to get used or applied in one time, since they are applied in an Open Area. Therefore, they are all added towards the PTE.

* Total pounds per day VOC emissions from Pontoon and Fishing Line when painting metal or aluminum.

METHODOLOGY

Summation Coatings = Sum Coatings (Densitycoat * Wt % Org. * quantity of coatings, gal/unit) / (1-vol % water * Densitycoat/density water)

Volume Weighted Average = Summation Coatings / Total coatings Used

Pounds of VOC per Gallon Coating less Water = (Density (lb/gal) * Weight % Organics) / (1-Volume % water)

Pounds of VOC per Gallon Coating = (Density (lb/gal) * Weight % Organics)

Potential VOC Pounds per Hour = Pounds of VOC per Gallon coating (lb/gal) * Gal of Material (gal/unit) * Maximum (units/hr)

Potential VOC Pounds per Day = Pounds of VOC per Gallon coating (lb/gal) * Gal of Material (gal/unit) * Maximum (units/hr) * (24 hr/day)

Potential VOC Tons per Year = Pounds of VOC per Gallon coating (lb/gal) * Gal of Material (gal/unit) * Maximum (units/hr) * (8760 hr/yr) * (1 ton/2000 lbs)

Particulate Potential Tons per Year = (units/hour) * (gal/unit) * (lbs/gal) * (1- Weight % Volatiles) * (1-Transfer efficiency) *(8760 hrs/yr) *(1 ton/2000 lbs)

Pounds VOC per Gallon of Solids = (Density (lbs/gal) * Weight % organics) / (Volume % solids)

Total = Worst Coating + Sum of all solvents used

1.93	25.39	8.43	0.32
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Appendix A: Emission Calculations

HAP Emission Calculations

Company Name: Forest River, Inc. - Odyssey Boat Division
Address City IN Zip: 51773 C.R. 39, Middlebury, IN 46540
Exemption No.: 039-18026
Plt ID: 039-00576
Reviewer: Aida De Guzman
Date Application Received: Sept. 25, 2003

Material	Density (Lb/Gal)	Gallons of Material (gal/unit)	Weight % Xylene	Weight % Toluene	Weight % MEK	Weight % Glycol Ethers	Weight % Styrene	Xylene Emissions (ton/yr)	Toluene Emissions (ton/yr)	MEK Emissions (ton/yr)	Glycol Ethers Emissions (ton/yr)	Styrene Emissions (ton/yr)
Fishing Boat Line												
Denatured Alcohol	6.6	0.07500	0.00%	0.00%	0.00%	0.00%	0.00%	0.000	0.000	0.000	0.000	0.000
NuFlex 302 Silicone Sealant	8.6	0.00080	0.00%	0.00%	0.00%	0.00%	0.00%	0.000	0.000	0.000	0.000	0.000
NuFlex White Acrylic Sealant	13.3	0.04600	0.00%	0.00%	0.00%	0.00%	0.00%	0.000	0.000	0.000	0.000	0.000
WD40	6.7	0.04800	0.00%	0.00%	0.00%	0.00%	0.00%	0.000	0.000	0.000	0.000	0.000
Bostik Super Tack Adhesive	6.4	0.51890	0.00%	0.00%	0.00%	0.00%	0.00%	0.000	0.000	0.000	0.000	0.000
Cyclo C-111 Cleaner	6.3	0.00005	0.00%	0.00%	0.00%	0.00%	0.00%	0.000	0.000	0.000	0.000	0.000
Beaver Terp-a-Kleen	7.2	0.03130	0.00%	0.00%	0.00%	0.00%	0.00%	0.000	0.000	0.000	0.000	0.000
Evinrude Tracker MET Black Paint	6.9	0.00030	0.00%	0.00%	0.00%	0.00%	0.00%	0.000	0.000	0.000	0.000	0.000
3M Polishing Cmp #7	8.3	0.00230	0.00%	0.00%	0.00%	0.00%	0.00%	0.000	0.000	0.000	0.000	0.000
Autofroth 91B0032	9.2	0.02340	0.00%	0.00%	0.00%	0.00%	0.00%	0.000	0.000	0.000	0.000	0.000
Autofroth 9300A Flotation Foam	10.2	0.06250	0.00%	0.00%	0.00%	0.00%	0.00%	0.000	0.000	0.000	0.000	0.000
Chemtech 7227 Premium Adhesive	6.7	0.06260	0.00%	0.00%	0.00%	0.00%	0.00%	0.000	0.000	0.000	0.000	0.000
Pontoon Line			0.00%	0.00%	0.00%	0.00%	0.00%	0.000	0.000	0.000	0.000	0.000
Spray N Go Touch Up	6.7	0.00070	0.00%	0.00%	0.00%	0.00%	0.00%	0.000	0.000	0.000	0.000	0.000
Denatured Alcohol	6.6	0.07500	0.00%	0.00%	0.00%	0.00%	0.00%	0.000	0.000	0.000	0.000	0.000
Vetak 7747-00 Adhesive	9.2	3.00000	0.00%	0.00%	0.00%	0.00%	0.00%	0.000	0.000	0.000	0.000	0.000
NuFlex 302 Silicone	8.6	0.00080	0.00%	0.00%	0.00%	0.00%	0.00%	0.000	0.000	0.000	0.000	0.000
NuFlex 180 White Acrylic Sealant	13.3	0.04600	0.00%	0.00%	0.00%	0.00%	0.00%	0.000	0.000	0.000	0.000	0.000
WD40	6.7	0.04800	0.00%	0.00%	0.00%	0.00%	0.00%	0.000	0.000	0.000	0.000	0.000
Alumicolor Metal Paint	6.2	0.00030	0.00%	0.00%	5.00%	8.00%	0.00%	0.000	0.000	0.001	0.001	0.000
PL-FIX Pro Wood Filler	9.9	0.00005	0.00%	0.00%	0.00%	0.00%	0.00%	0.000	0.000	0.000	0.000	0.000
Law 8403 Bonding Cement	8.3	0.16800	0.00%	0.00%	0.00%	0.00%	0.00%	0.000	0.000	0.000	0.000	0.000
Cyclo C 111- Cleaner	6.3	0.00005	0.00%	0.00%	0.00%	0.00%	0.00%	0.000	0.000	0.000	0.000	0.000
Acrylyd Satin Black	6.4	0.00030	16.00%	0.00%	0.00%	0.00%	0.00%	0.003	0.000	0.000	0.000	0.000
Bondo Fiberglass	9.6	0.00020	0.00%	0.00%	0.00%	0.00%	20.00%	0.000	0.000	0.000	0.000	0.000
Interplastic Marine Resin	10.8	0.00040	0.00%	0.00%	0.00%	0.00%	46.50%	0.000	0.000	0.000	0.000	0.000
RW Touch up Paint 5-FSC	7.0	0.00120	12.22%	0.00%	4.03%	0.00%	0.00%	0.009	0.000	0.003	0.000	0.000
G&T Ind. Vinyl Patch	7.4	0.00005	0.00%	0.00%	24.00%	0.00%	0.00%	0.000	0.000	0.001	0.000	0.000
3M Polishing Cmpd #7	8.3	0.00230	0.00%	0.00%	0.00%	0.00%	0.00%	0.000	0.000	0.000	0.000	0.000
Beaver Terp A Kleen	7.2	0.03130	0.00%	0.00%	0.00%	0.00%	0.00%	0.000	0.000	0.000	0.000	0.000
Evinrude Tracker MET	6.9	0.00030	9.86%	11.66%	0.00%	1.52%	0.00%	0.002	0.002	0.000	0.000	0.000
RW Paint White 5-FSC	7.0	0.00070	12.22%	31.78%	4.03%	0.00%	0.00%	0.005	0.014	0.002	0.000	0.000
Rust Stop Paint	11.0	0.00070	0.00%	0.00%	0.00%	0.00%	0.00%	0.000	0.000	0.000	0.000	0.000
ScotchKote	7.3	0.00090	0.00%	15.00%	15.00%	0.00%	0.00%	0.000	0.009	0.009	0.000	0.000
Chemtech 7227 Premium Adhesive	6.7	0.06260	0.00%	0.00%	0.00%	0.00%	0.00%	0.000	0.000	0.000	0.000	0.000

Potential To Emit (tons/yr)

METHODOLOGY

Worst Single HAP
 Combined HAPs

0.01	0.025	0.02	0.0010
0.025			
0.056			

HAPS emission rate (tons/yr) = Density (lb/gal) * Gal of Material (gal/unit) * Maximum (unit/hr) * Weight % HAP * 8760 hrs/yr * 1 ton/2000 lbs

Appendix A: Welding

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Company Name: Forest River, Inc. - Odyssey Boat Division

Address City IN Zip: 51773 C.R. 39, Middlebury, IN 46540

Exemption No.: 039-18026

Plt ID: 039-00576

Reviewer: Aida De Guzman

Date Application Received: Sept. 25, 2003

PROCESS	Number of Stations	Max. electrode consumption per station (lbs/hr)	EMISSION FACTORS * (lb pollutant / lb electrode)				EMISSIONS (lb/hr)				TOTAL HAPS (lb/hr)
			PM = PM10	Mn	Ni	Cr	PM = PM10	Mn	Ni	Cr	
WELDING											
Metal Inert Gas (MIG)(ER70S)	4	1.7	0.0052	0.00346	0.00104	0.00001	0.035	0.023528	0.007	0.000068	0.031
EMISSION TOTALS							PM = PM10	Mn	Ni	Cr	Total HAPs
Potential Emissions lbs/hr							0.04	0.02	0.00	0.00	0.03
Potential Emissions lbs/day							0.85	0.56	0.00	0.00	0.74
Potential Emissions tons/year							0.15	0.103	0.000	0.00	0.13

METHODOLGY

*Emission Factors are from AP-42, Chapter 12, Fifth Edition

Welding emissions, lb/hr: (# of stations)(max. lbs of electrode used/hr/station)(emission factor, lb. pollutant/lb. of electrode used)

Emissions, lbs/day = emissions, lbs/hr x 24 hrs/day

Emissions, tons/yr = emissions, lb/hr x 8,760 hrs/day x 1 ton/2,000 lbs.

Welding and other flame cutting emission factors are from an internal training session document.

Appendix A: Process Particulate Emissions

Company Name: Forest River, Inc. - Odyssey Boat Division
Address City IN Zip: 51773 C.R. 39, Middlebury, IN 46540
Exemption No.: 039-18026
Plant ID No.: 039-00576
Reviewer: Aida De Guzman
Date Application Received: Sept. 25, 2003

Particulate Emissions Before Control (tons/year)						
Process	Raw Material Fed (lb/hr)	Particulate Generated (lb/hr)	% PM	% PM-10	PM emissions (tons/yr)	PM-10 emissions (tons/yr)
Woodworking	75	7.50	10	1	3.29	0.33

Particulate Emissions After Control (tons/year)							
Process	Raw Material Fed (lb/hr)	Particulate Generated (lb/hr)	% PM	% PM-10	PM emissions (tons/yr)	PM-10 emissions (tons/yr)	Control Efficiency
Woodworking	75	7.50	10	1	0.07	0.01	98.00%

Methodology:

Uncontrolled Emissions:

Uncontrolled Emissions (tons/yr) = Particulate Generated (lb/hr) * PM % * 8760 hr/yr * 1 ton/2,000 lbs

Controlled Emissions :

Controlled Emissions (tons/yr) = Particulate Generated (lb/hr) * PM % * 8760 hr/yr * 1 ton/2,000 lbs * 1/(1-Control Efficiency)

Appendix A: Emissions Calculations**Natural Gas Combustion Only****MM BTU/HR <100****Small Industrial Boiler****Company Name:** Forest River, Inc. - Odyssey Boat Division**Address City IN Zip:** 51773 C.R. 39, Middlebury, IN 46540**Exemption No.:** 039-18026**Plant ID No.:** 039-00576**Reviewer:** Aida De Guzman**Date Application Received:** Sept. 25, 2003Heat Input Capacity
MMBtu/hrPotential Throughput
MMCF/yr

5.4

47.3

3 space heaters each 1.8 mmBtu/hr

Pollutant						
Emission Factor in lb/MMCF	PM*	PM10*	SO2	NOx	VOC	CO
	1.9	7.6	0.6	100.0	5.5	84.0
Potential Emission in tons/yr	0.04	0.18	0.01	2.37	0.13	1.99

*PM emission factor is filterable PM only. PM10 emission factor is filterable and condensable PM10 combined.

**Emission Factors for NOx: Uncontrolled = 100, Low NOx Burner = 50, Low NOx Burners/Flue gas recirculation = 32

Methodology

All emission factors are based on normal firing.

MMBtu = 1,000,000 Btu

MMCF = 1,000,000 Cubic Feet of Gas

Potential Throughput (MMCF) = Heat Input Capacity (MMBtu/hr) x 8,760 hrs/yr x 1 MMCF/1,000 MMBtu

Emission Factors are from AP 42, Chapter 1.4, Tables 1.4-1, 1.4-2, 1.4-3, SCC #1-02-006-02, 1-01-006-02, 1-03-006-02, and 1-03-006-03 (SUPPLEMENT D 3/98)

Emission (tons/yr) = Throughput (MMCF/yr) x Emission Factor (lb/MMCF)/2,000 lb/ton

See page 2 for HAPs emissions calculations.

**Appendix A: Emissions Calculations
Natural Gas Combustion Only**

Page 6 of 6 TSD App A

MM BTU/HR <100

Small Industrial Boiler

HAPs Emissions

Company Name: Forest River, Inc. - Odyssey Boat Division

Address City IN Zip: 51773 C.R. 39, Middlebury, IN 46540

Exemption No.: 039-18026

Plant ID No.: 039-00576

Reviewer: Aida De Guzman

Date Application Received: Sept. 25, 2003

HAPs - Organics

Emission Factor in lb/MMcf	Benzene 2.1E-03	Dichlorobenzene 1.2E-03	Formaldehyde 7.5E-02	Hexane 1.8E+00	Toluene 3.4E-03
Potential Emission in tons/yr	4.967E-05	2.838E-05	1.774E-03	4.257E-02	8.042E-05

HAPs - Metals

Emission Factor in lb/MMcf	Lead 5.0E-04	Cadmium 1.1E-03	Chromium 1.4E-03	Manganese 3.8E-04	Nickel 2.1E-03
Potential Emission in tons/yr	1.183E-05	2.602E-05	3.311E-05	8.988E-06	4.967E-05

Methodology is the same as page 1.

The five highest organic and metal HAPs emission factors are provided above.
Additional HAPs emission factors are available in AP-42, Chapter 1.4.